2. (Previously Presented) The method of claim 1 further comprising assigning each of the plurality of users a distinct address from an address pool.

3. (Original) The method of claim 2 wherein the address pool contains 2^k addresses, the maximum number of users within one channel.

4. (Original) The method of claim 2 further comprising dynamically splitting the address pool into 2^x subgroups.

5. (Previously Presented) The method of claim 4 further comprising transmitting only the users belonging to the specific subgroup at any transmission opportunity.

6. (Original) The method of claim 5 further comprising starting of a multiple access cycle where x could be any number from 0 to k.

7. (Previously Presented) The method of claim 6 wherein the contention mode occurs for each of the plurality of users when x=0 and only one subgroup exists allowing every user to transmit.

8. (Previously Presented) The method of claim 6 wherein the polling mode occurs for each of the plurality of users when x=k and there are 2^k subgroups containing only one user.

9. (Original) The method of claim 6 wherein the seamless transition between the polling mode and the contention mode occurs by changing the x parameter.

10. (Previously Presented) method of claim 1 further comprising applying a contention resolution algorithm when a collision between two user signals occurs.

11. (Previously Presented) The method of claim 10 wherein when the collision occurs between two user signals, a subgroup x will be split into two smaller subgroups (x=x+1), both smaller subgroups containing half the number of users in the subgroup x.

12. (Previously Presented) The method of claim 11 wherein when another collision between two user signals occurs within one of the smaller subgroups, the one smaller subgroup will again split.

13. (Previously Presented) The method of claim 10 wherein when collisions no longer occur in any subgroup, a multiple access cycle ends and a new cycle begins.

14. (Currently Amended) An apparatus for coordinating slotted multiple access in a wireless network channel shared by a plurality of users comprising:

a. means for assigning each [on] one of a plurality of users into a subgroup, thereby forming one or more subgroups of users;

b. means for implementing a polling mode to provide each subgroup a transmission opportunity;

c. means for implementing a contention mode within each subgroup; and

d. means for providing a seamless transition between the polling and contention modes such that when a specific subgroup is provided a transmission opportunity and a collision occurs between user signals within the specific subgroup, the specific subgroup is split into smaller subgroups, each smaller subgroup including a portion of the users within the specific subgroup and each smaller subgroup utilizes a contention mode.

15. (Previously Presented) The apparatus of claim 14 further including means for assigning each of the plurality of users a distinct address from an address pool.

16. (Original) The apparatus of claim 15 wherein the address pool contains 2^k addresses, the maximum number of users within one channel.

17. (Original) The apparatus of claim 15 further including means for dynamically splitting the address pool into 2^x subgroups.

18. (Previously Presented) The apparatus of claim 17 further including means for transmitting only the users belonging to the specific subgroup at any transmission opportunity.

19. (Original) The apparatus of claim 18 further including means for starting of a multiple access cycle where x could be any number from 0 to k.

20. (Previously Presented) The apparatus of claim 19 wherein the contention mode occurs for each of the plurality of users when x=0 and only one subgroup exists allowing every user to transmit.

21. (Previously Presented) The apparatus of claim 19 wherein the polling mode occurs for each of the plurality of users when x=k and there are 2^k subgroups containing only one user.

22. (Original) The apparatus of claim 19 wherein the seamless transition between the polling mode and the contention mode occurs by changing the x parameter.

23. (Previously Presented) The apparatus of claim 14 further comprising applying a contention resolution algorithm when a collision between two user signals occurs.

24. (Previously Presented) The apparatus of claim 23 wherein when the collision occurs between two user signals, a subgroup x will be split into two smaller subgroups (x=x+1), both smaller subgroups containing half the number of users in the subgroup x.

25. (Previously Presented) The apparatus of claim 24 wherein when another collision between two user signals occurs within one of the smaller subgroups, the one smaller subgroup will again split.

26. (Previously Presented) The apparatus of claim 23 wherein when collisions no longer occur in any subgroup, a multiple access cycle ends and a new cycle begins.

27. (Currently Amended) An apparatus for coordinating slotted multiple access in a wireless network channel shared by a plurality of users comprising:

a. an ATM cube for operating a high speed wireless network consisting of a plurality of horizontal and vertical management layers;

b. a hub for transmitting and receiving wireless network signals such that the hub may receive requests and assign portions of a communication bandwidth; and

c. a plurality of end user nodes for transmitting and receiving wireless network signals such that a plurality of users may request or be granted a portion of the communication bandwidth,

wherein the hub assigns each one of the plurality of users into a subgroup that utilizes a contention mode, and when a specific subgroup is provided a transmission opportunity according to a polling mode and a collision occurs between user signals within the specific subgroup, the hub splits the specific subgroup into smaller subgroups, each smaller subgroup including a portion of the users within the specific subgroup and each smaller subgroup utilizes a contention mode.

28. (Previously Presented) apparatus of claim 27 wherein the hub assigns each of the plurality of users a distinct address from an address pool.

29. (Original) The apparatus of claim 28 wherein the address pool contains 2^k addresses, the maximum number of users within one channel.

30. (Original) The apparatus of claim 28 wherein the address pool may be dynamically split into 2^x subgroups.

31. (Previously Presented) The apparatus of claim 30 wherein at any transmission opportunity only the users belonging to the specific subgroup transmit.

32. (Original) The apparatus of claim 31 wherein the hub starts a multiple access cycle where x could be any number from 0 to k.

33. (Previously Presented) The apparatus of claim 32 wherein the contention mode occurs for each of the plurality of users when x=0 and only one subgroup exists allowing every user to transmit.

34. (Previously Presented) The apparatus of claim 32 wherein the polling mode occurs for each of the plurality of users when x=k and there are 2^k subgroups containing only one user.

35. (Previously Presented) The apparatus of claim 32 wherein a seamless transition between the polling mode and the contention mode occurs by changing the x parameter.

36. (Previously Presented) The apparatus of claim 27 wherein the hub implements a contention resolution algorithm when a collision between two user signals occurs.

37. (Previously Presented) The apparatus of claim 36 wherein when the collision occurs between two user signals, a subgroup x will be split into two smaller subgroups (x=x+1), both smaller subgroups containing half the number of users in the subgroup x.

38. (Previously Presented) The apparatus of claim 37 wherein when another collision between two user signals occurs within one of the smaller subgroups, the one smaller subgroup will again split.

39. (Previously Presented) The apparatus of claim 36 wherein when collisions no longer occur in any subgroup, a multiple access cycle ends and a new cycle begins.